



# Phish or No Phish?

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Masquerades, Deception, and Thievery  
On the web...





# “phishing”

❖ *“**Phishing** is the act of attempting to acquire information such as usernames, passwords, and credit card details (and sometimes, indirectly, money) by masquerading as a trustworthy entity in an electronic communication.”*

❖ *“Phishing is an example of social engineering techniques used to deceive users, and exploits the poor usability of current web security technologies.”*



# Techniques

- ❖ Phishing
- ❖ Spear Phishing
- ❖ Clone Phishing
- ❖ Whaling
- ❖ Link manipulation
- ❖ Filter evasion
- ❖ Website forgery
- ❖ Phone phishing
- ❖ Clone Phishing
- ❖ Tab nabbing
- ❖ Evil twins
- ❖ Click-through syndrome



# Phishing success

**Phishing is profitable with only a low level of success.**

❖ 1% of 1% of a web site's visitors being "phished" can be highly profitable!

❖ 8:51 PM, 10/16/2012, the "dashboard" for CA.GOV websites indicated **29,752** visitors.

❖ Deceive 3 people an hour, and a phisher can score one or more of the following profitable items:

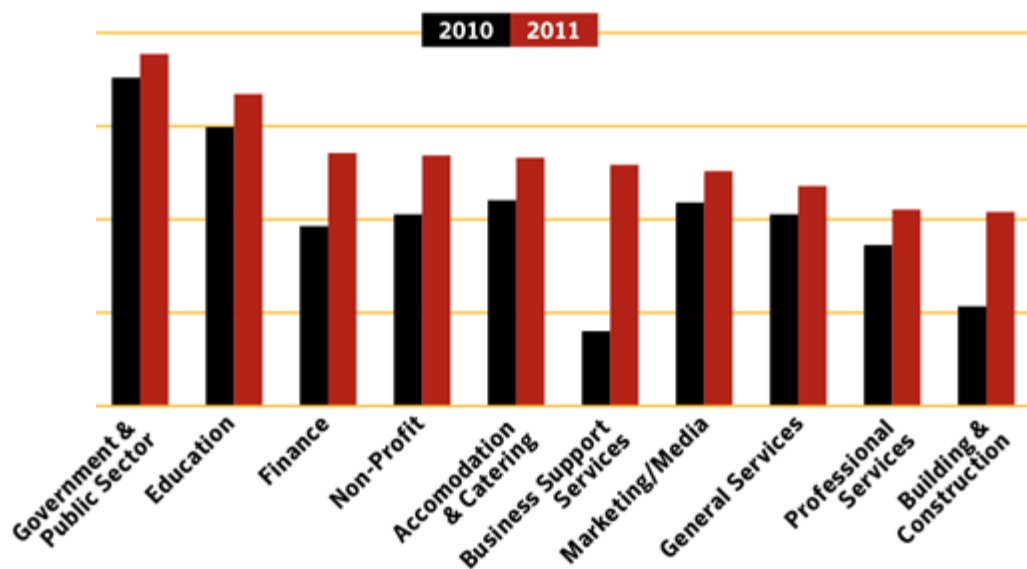
- Personal identity information



# Targets

Figure C.24

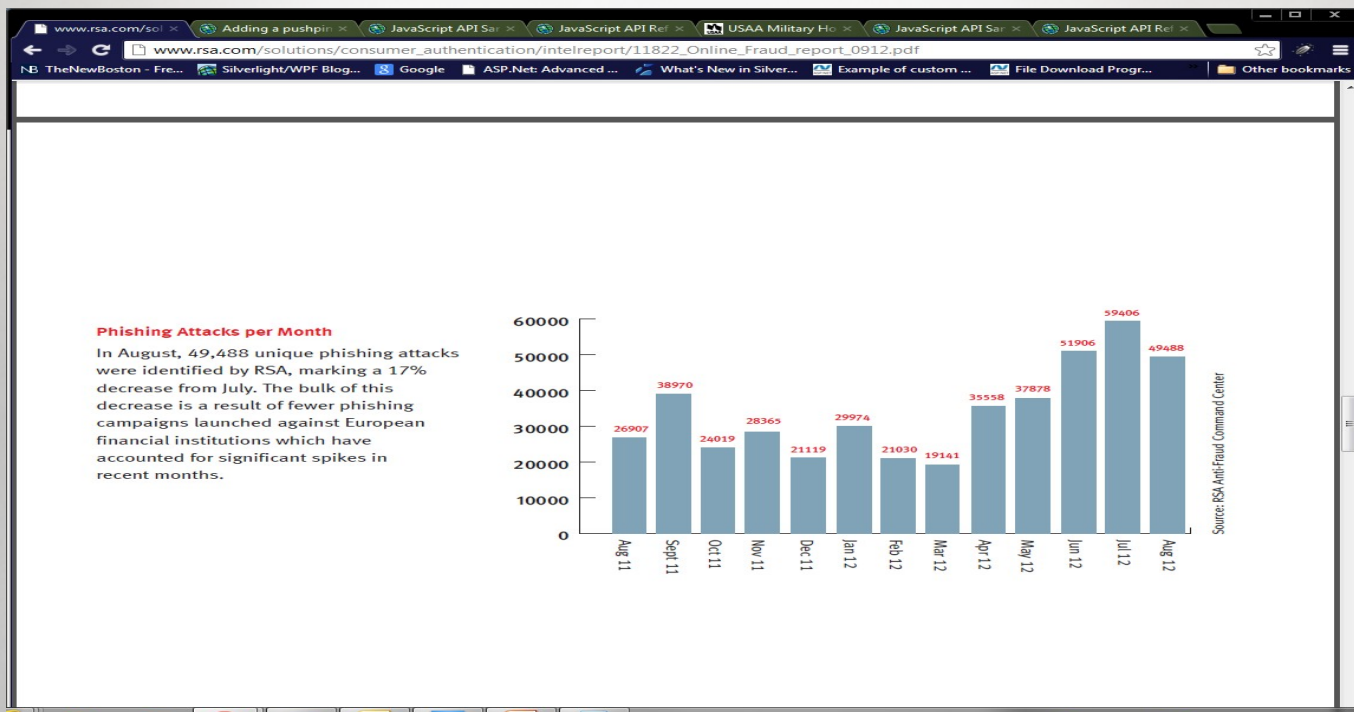
Proportion Of Email Traffic Identified As Phishing  
By Industry Sector, 2011



Source: Symantec



# Statistics





# Defense Trifecta





# Phish or no phish?



## Beware Of Phishing

Don't click on links in e-mails that ask for personal information. Never open unexpected attachments. Delete suspicious messages, even if you know the source.

❖ *The fastest growing Internet game sweeping the*

*nat*



They're phishing  
for you  
**don't bite**



# Phish?



The screenshot shows a web browser window with multiple tabs. The active tab is titled "California Department of Motor Vehicles" and displays a phishing website. The website's URL is "https://www.ca.gov/dmv". The page features a header with navigation links: "HOME", "OFFICES", "ONLINE SERVICES", "DRIVER LICENSE", and "VEHICLE REGISTRATION". A large banner image shows a hand holding a smartphone displaying the DMV app, with the text "Making Your Life EASIER! Android & iPhone Apps". Below the banner, there are sections for "Important California DMV Alerts" and "Online Services". The "Important California DMV Alerts" section includes links to "Tell Us... How Are We Doing?", "New Palm Desert Field Office Open", "Targeted PSAs Promote Advance Appointments and Online Services", "Self Service Terminals Hit 1 Million Transactions", and "The Latest DMV Office and Closure Information". The "Online Services" section includes links to "Make an Appointment before going to a DMV Field Office", "Obtain a Copy Online of your Driver Record", "Renew Your Vehicle Registration online today", "Driver License Renewal", "Have you moved? You can submit a Change of Address to DMV online.", and "Show Detailed Listing of Online Services". On the right side, there is an "Identity Management Portal" with "LOGIN/REGISTER" links for "Login Here", "Register Here", and "Areas of Interest". At the bottom right, there is a "Check Us Out! DMV" button with a "PLAY" icon. The browser's address bar shows the URL "https://www.ca.gov/dmv". The browser's tabs include "Analysis of Phishing Activi...", "Theft Synonyms, Theft An...", "Phishing - Wikipedia, the f...", and "California Department of Motor Vehicles". The browser's bookmarks bar shows "What's New in Silver...", "Example of custom...", "File Download Progr...", and "Other bookmarks". The browser's search bar is empty. The browser's status bar shows the time "8:35 AM" and the date "10/10/2010".





# PHISH?







# This IS THE Phish!







# Get a lock!

What is the “threshold” used for  
a website to get an SSL certificate  
and a “LOCK?”



*The Ability to Pay.*





# EV Certificate

❖ Focuses on website owner:

- Official paper trail that backs up your claim that you (1) Own that website, and (2) Own that IP/DNS name, and (3) you are a legal entity.

❖ User:

- Offers visual cues for the users that the website employs an EV certificate.



# Wells fargo



**www.wellsfargo.com**

The identity of this website has been verified by VeriSign Class 3 International Server CA - G3.

[Certificate information](#)



Your connection to www.wellsfargo.com is encrypted with 128-bit encryption.

The connection uses TLS 1.0.

The connection is encrypted using RC4\_128, with SHA1 for message authentication and RSA as the key exchange mechanism.

The server does not support the TLS renegotiation extension.



## Site information

You first visited this site on Sep 28, 2012.

[What do these mean?](#)



Start building your  
credit with a card that  
carries a 9.9% APR.

[Learn More](#)

For auto insurance, free checking, credit cards, investments and more, let us serve you.



#### Auto Insurance

Then. Now. Always. Count on USAA for affordable auto insurance. Members save an average of \$450 a year.

[Get an Auto Insurance Quote](#)  
[» Learn More](#)  
[» Retrieve Quote](#)



#### Life Insurance

Help Protect Your Family. It's not just life insurance. It's your family's way of life, and your peace of mind today.

[Get a Life Insurance Quote](#)

**United Services Automobile Association (www.usaa.com)**  
The identity of United Services Automobile Association at San Antonio, Texas US has been verified by VeriSign Class 3 Extended Validation SSL CA.  
[Certificate information](#)

Your connection to [www.usaa.com](http://www.usaa.com) is encrypted with 256-bit encryption.

The connection uses TLS 1.1.

The connection is encrypted using AES\_256\_CBC, with SHA1 for message authentication and RSA as the key exchange mechanism.

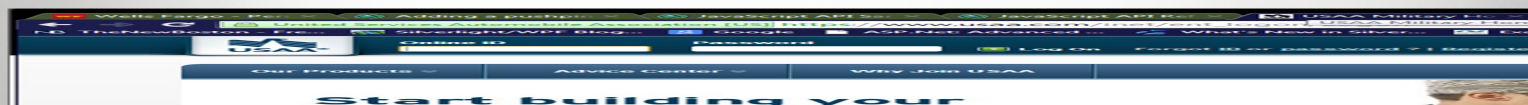
**Site information**  
You first visited this site on Aug 14, 2012.

[What do these mean?](#)



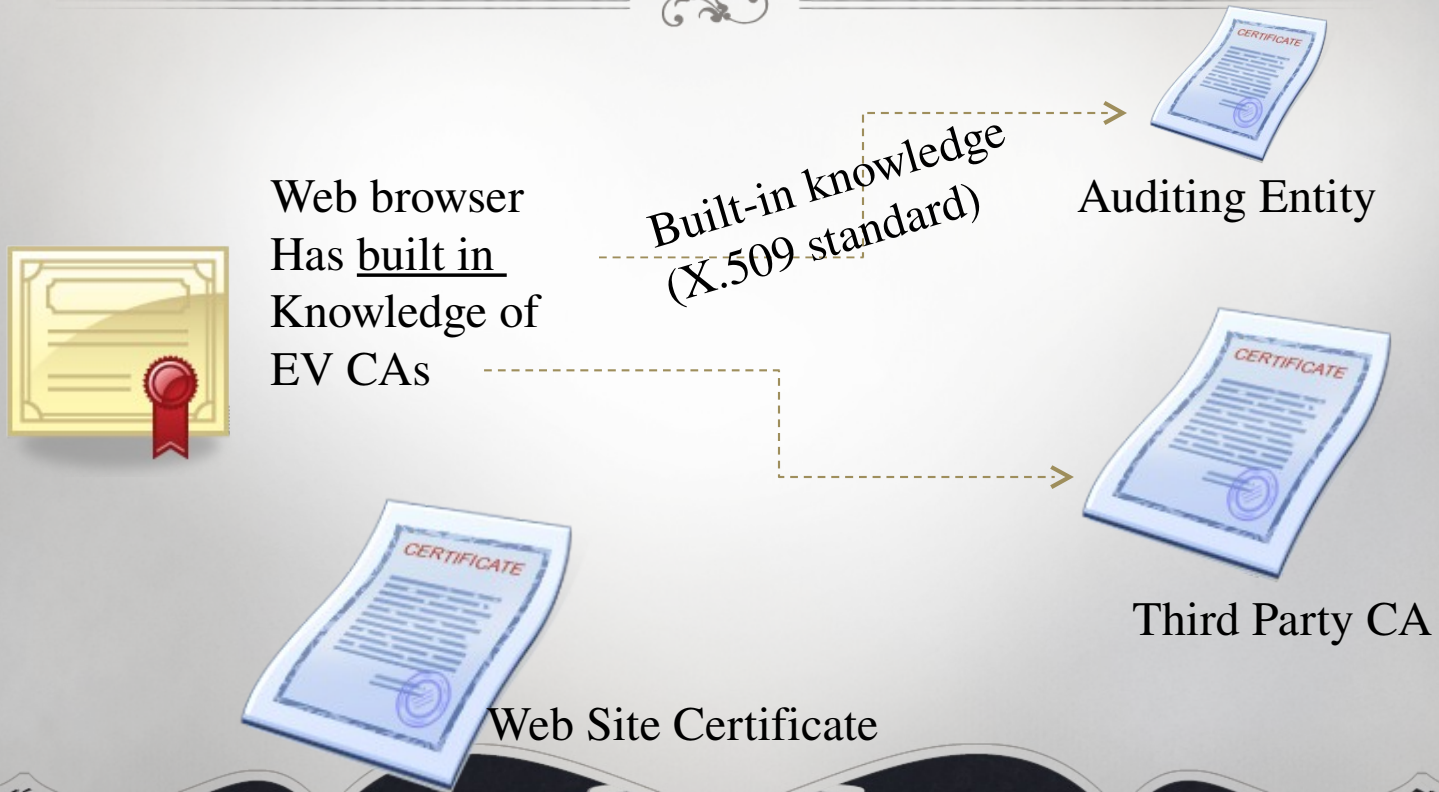


# Comparison





# EV SSL Certs...







# How to implement EV SSL

- ❖ Get the certificate from a reputable source.
- ❖ Educate your users!!
  - *Get them to check the address bar.*
- ❖ Code your website cleanly!



# Phish Tank

[http://www.phishtank.com/phish\\_archive.php](http://www.phishtank.com/phish_archive.php)







# Questions?

❖The end